

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior listings of claims in this application.

1. (Currently Amended) A stationary or fixed-position buoy for observing and monitoring the surface of a predetermined area of water, comprising:
 - a flotation device;
 - a ~~mini-encapsulated~~ and waterproof imaging device attached to the exterior of the flotation device, the imaging device operable for obtaining continuous real-time images of the surface of the predetermined area of water;
 - a waterproof computer partially or wholly disposed within the flotation device, the computer operable for storing the continuous real-time images of the surface of the predetermined area of water; and
 - one or more communications devices partially or wholly disposed within the flotation device, the one or more communications devices operable for transmitting a signal representing the continuous real-time images of the surface of the predetermined area of water to an operator at a remote location.
2. (Original) The buoy of claim 1, further comprising a gimbal structure attached to the exterior of the flotation device and to the imaging device, the gimbal structure operable for allowing the imaging device to remain level in the presence of buoy tilting caused by wind and/or water currents.
3. (Original) The buoy of claim 1, further comprising a power source partially or wholly disposed within the flotation device, the power source operable for providing power to the imaging device, the computer, and the one or more communications devices.
4. (Original) The buoy of claim 1, further comprising a plurality of energy collecting/power generating devices attached to the exterior of the flotation device, the plurality of energy collecting/power generating devices operable for maintaining the voltage level of the power source.

01060 (B.I.T.-0059)

5. (Original) The buoy of claim 1, wherein the one or more communications devices further comprise one or more mobile telephones having data transmission capability.

6. (Previously Presented) The buoy of claim 1, wherein the one or more communications devices further comprise one or more telemetry devices.

7. (Canceled)

8. (Currently Amended) The buoy of claim 1, further comprising a tether and a mooring attached to the exterior of flotation device, the tether and the mooring operable for securing the flotation device in a predetermined location said stationary or fixed-position.

9. (Original) The buoy of claim 1, further comprising a controller associated with the imaging device, the controller operable for controlling the orientation of the imaging device relative to the surface of the predetermined area of water.

10. (Currently Amended) A stationary or fixed-position buoy for observing and monitoring the surface of a predetermined area of water comprising:

a flotation device;

an ~~encapsulated~~ imaging device attached to the exterior of the flotation device, the imaging device operable for obtaining continuous real-time images of the surface of the predetermined area of water;

a computer partially or wholly disposed within the flotation device, the computer operable for storing the continuous real-time images of the surface of the predetermined area of water;

one or more communications devices partially or wholly disposed within the flotation device, the one or more communications devices operable for transmitting a signal representing the continuous real-time images of the surface of the predetermined area of water to an operator at a remote location; and

01060 (N1.1-0059)

a gimbal structure attached to the exterior of the flotation device and to the imaging device, the gimbal structure operable for allowing the imaging device to remain level in the presence of buoy tilting caused by wind and/or water currents.

11. (Original) The buoy of claim 10, further comprising a power source partially or wholly disposed within the flotation device, the power source operable for providing power to the imaging device, the computer, and the one or more communications devices.

12. (Original) The buoy of claim 10, further comprising a plurality of energy collecting/power generating devices attached to the exterior of the flotation device, the plurality of energy collecting/power generating devices operable for maintaining the voltage level of the power source.

13. (Original) The buoy of claim 10, wherein the one or more communications devices further comprise one or more mobile telephones having data transmission capability.

14. (Previously Presented) The buoy of claim 10, wherein the one or more communications devices further comprise one or more telemetry devices.

15. (Canceled)

16. (Currently Amended) The buoy of claim 10, further comprising a tether and a mooring attached to the exterior of the flotation device, the tether and the mooring operable for securing the flotation device in a predetermined location said stationary or fixed position.

17. (Original) The buoy of claim 10, further comprising a controller associated with the imaging device, the controller operable for controlling the orientation of the imaging device relative to the surface of the predetermined area of water.

18. (New) A stationary or fixed-position buoy for observing and monitoring the surface of a predetermined area of water, said buoy comprising:

01060 (ILL-0059)

a flotation device being a 55-gallon plastic drum;

a non-encapsulated and waterproof imaging device attached to the exterior of the flotation device, the imaging device operable for obtaining continuous real-time images of the surface of the predetermined area of water and having a transparent dome structure;

a waterproof computer partially or wholly disposed within the flotation device, the computer operable for storing the continuous real-time images of the surface of the predetermined area of water;

one or more communications devices partially or wholly disposed within the flotation device, the one or more communications devices operable for transmitting a signal representing the continuous real-time images of the surface of the predetermined area of water to an operator at a remote location;

a plurality of energy collecting/power generating devices attached to the exterior of the flotation device, the plurality of energy collecting/power generating devices operable for maintaining a voltage level of a power source; and

a tether and a mooring attached to the exterior of flotation device, the tether and the mooring operable for securing the flotation device in said stationary or fixed-position;

wherein said imaging device is a digital video camera with infrared (IR) and heat-sensing capabilities;

wherein each of said plurality of energy collecting/power generating devices is a plurality of solar panels, each of said plurality of solar cells having of a plurality of photovoltaic cells connected in series, each of said photovoltaic cells being silicon encapsulated in a clear silicon potting compound; and

wherein said tether is attached to said flotation device and said mooring via a swivel.

19. (New) The buoy of claim 18, further comprising a gimbal structure attached to the exterior of the flotation device and to the imaging device, the gimbal structure operable for allowing the imaging device to remain level in the presence of buoy tilting caused by wind and/or water currents.

20. (New) The buoy of claim 18, further comprising a power source partially or wholly disposed within the flotation device, the power source operable for providing power to the imaging device, the computer, and the one or more communications devices.

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01060 (B.L.-0059)

6